

### **Remarks**

Claims 1-27 are currently pending in the Application, Claims 28-29 are newly presented herein, and withdrawn Claims 13-25 are herein canceled without prejudice.

### **Summary of claim amendments**

This response amends Claim 1 to recite “an emitter mesa containing at least one layer ... wherein the emitter ledge layer is composed of a ledge layer material different from a material of the at least one layer.” Support for the amendments can be found, for example, on page 9, lines 6-7 of the specification.

This response amends Claim 26 to recite “wherein the emitter mesa comprising at least one layer that is composed of different material than the emitter ledge layer.” Support for the amendments can be found, for example, on page 9, lines 6-7 of the specification.

This response cancels withdrawn Claims 13-25 without prejudice.

### **New Claims**

This response adds new Claims 28-29 to more completely claim the invention. Support for the new Claims 26-35 can be found, for example, in the original Claims 1, 6 and 26.

### **Finality of the Office Action**

Applicant respectfully requests that the Examiner withdraw the finality of the present Office Action. According to MPEP Section 706.05 the “applicant who is seeking to define his or her invention in claims that will give him or her the patent protection to which he or she is justly entitled should receive the cooperation of the Examiner to that end, and not be prematurely cut off in the prosecution of his or her application.”

Applicant submits that she is seeking to define her invention in claims to which she is justly entitled. Because Applicant has not dallied in the prosecution of this application and did not resort to technical or other obvious subterfuges in order to keep the

application pending before the primary Examiner, Applicant respectfully requests Examiner's cooperation in obtaining protection to which Applicant is justly entitled by withdrawing the finality of the present Office Action.

**35 U.S.C. §102(b) rejection in view of Enquist (U.S. Patent No. 5,780,880)**

Claims 1-12 and 26-27 stand rejected under 35 U.S.C. §102(b) as being anticipated by Enquist. Applicant respectfully disagrees for the following reasons.

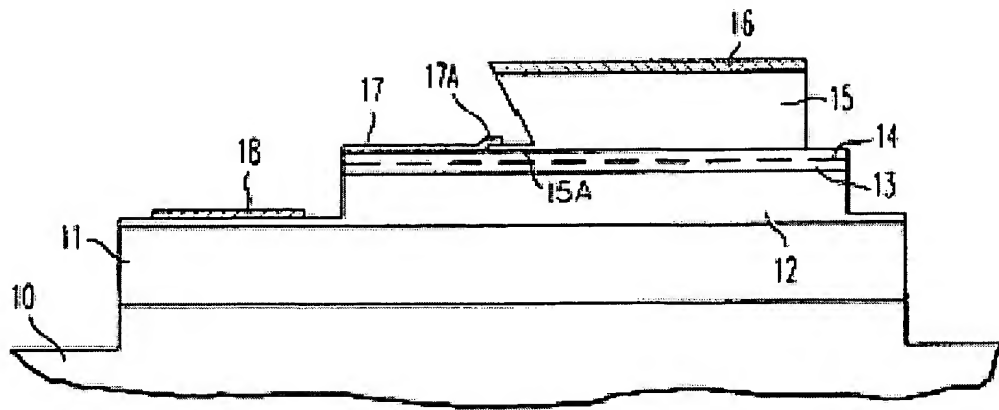
Claims 1-12

Applicant submits that Enquist does not disclose, suggest or teach, *inter alia*, the following features recited by amended Claim 1 of the present application:

“wherein the emitter ledge layer is composed of a ledge layer material **different** from a material of the at least one layer” (emphasis added)

Referring to Enquist's Figure 6 reproduced below, the Examiner asserts that “an emitter ledge layer” as recited in Claim 1 is disclosed by Enquist's ledge “15a.” See page 3, of the Official Action. The Examiner seems to also asserts that “an emitter mesa” as recited in Claim 1 is disclosed by Enquist's layer “15.” See page 3, of the Official Action.

Applicant respectfully traverses the Examiner's assertion.

**FIG. 6**

According to Enquist, the emitter layer “15” is etched to a predetermined thickness to create the ledge “15a.” See Figure 6 above and column 6, lines 51-53 of Enquist.

Basically, according to Enquist, the ledge “15a” and the emitter layer “15” are the same layer because the ledge “15a” is etched out of the emitter layer “15.”

Contrary to Enquist, the “the emitter ledge layer is composed of a ledge layer material **different** from a material of the at least one layer” (emphasis added) as recited in Claim 1. Hence, Claim 1 is patentable over Enquist and should be allowed by the Examiner. Claims 2-12, at least based on their dependency on Claim 1, are also believed to be patentable over Enquist.

#### Claims 26-27

Applicant submits that, at least for the reasons stated above for Claim 1, Enquist does not teach disclose or suggest “the emitter mesa comprising at least one layer that is composed of **different material** than the emitter ledge layer” (emphasis added) as recited in amended Claim 26. Hence, Claim 26 is patentable over Enquist and should be allowed by the Examiner. Claim 27, at least based on its dependency on Claim 26, is also believed to be patentable over Enquist.

**35 U.S.C. §103(a) rejection in view of Enquist (U.S. Patent No. 5,780,880)**

Claims 1-12 and 26-27 also stand rejected under 35 U.S.C. §103(a) as being obvious in view Enquist. Applicant respectfully disagrees for the following reasons.

**Claims 1-12**

Applicant submits that, at least for the reasons stated above, the Examiner has **not** established a *prima facie* case of obviousness for the claims rejected under 35 U.S.C. §103(a) because Enquist does not teach, disclose or suggest “the emitter ledge layer is composed of different material than the emitter mesa” as recited in amended Claim 1. Hence, Claim 1 is patentable over Enquist and should be allowed by the Examiner. Claims 2-12, at least based on their dependency on Claim 1, are also believed to be patentable over Enquist.

**Claims 26-27**

Applicant submits that, at least for the reasons stated above, the Examiner has **not** established a *prima facie* case of obviousness for the claims rejected under 35 U.S.C. §103(a) because Enquist does not teach, disclose or suggest “the emitter ledge layer is composed of different material than the emitter mesa” as recited in amended Claim 26. Hence, Claim 26 is patentable over Enquist and should be allowed by the Examiner. Claim 27, at least based on its dependency on Claim 26, is also believed to be patentable over Enquist.

**35 U.S.C. §102(e) rejection in view of Yanagisawa (U.S. Pub. No. 2004/0016941)**

Claims 1-12 and 26-27 stand rejected under 35 U.S.C. §102(e) as being anticipated by Yanagisawa that was filed on May 13, 2003. Applicant respectfully disagrees for the following reasons.

Applicant hereby submits a Declaration under 37 C.F.R. §1.131, setting forth that the present invention was conceived no later than October 14, 2002 and showing diligence from the conception to the constructive reduction to practice (filing date 8/12/03). This Declaration is supported by an Invention Disclosure document that memorializes this date of conception, October 14, 2002.

According to MPEP Section 2138.06 the “critical period for diligence for a first conceiver but second reducer begins not at the time of conception of the first conceiver but just prior to the entry in the field of the party who was first to reduce to practice and continues until the first conceiver reduces to practice.” In view of the MPEP Section 2138.06, Applicant submit evidence together with the Declaration that shows that there was diligence at least from April 21, 2003, that is prior to May 13, 2003 filing date of Yanagisawa, till August 12, 2003, that is the filing date of the present application.

Therefore, Applicant submit that the Yanagisawa document is not in fact a proper 102(e) reference because, in view of Applicant’s date of conception and diligence, the Yanagisawa reference does not prove that the invention was known or used by others before Applicant’s invention thereof.

Hence, Claims 1-12 and 26-27 are allowable over Yanagisawa, and Applicant respectfully urges the Examiner to pass all claims to issue.

**35 U.S.C. §103(a) rejection in view of Yanagisawa (U.S. Pub. No. 2004/0016941)**

Claims 1-12 and 26-27 also stand rejected under 35 U.S.C. §103(a) as being obvious in view Yanagisawa that was filed on May 13, 2003. Applicant respectfully disagrees for the following reasons.

In view of the enclosed Declaration under 37 C.F.R. §1.131, setting forth that the present invention was conceived no later than October 14, 2002, Applicant submit that the

Yanagisawa document is not in fact a proper 103(a) reference because, in view of Applicant's date of conception, the Yanagisawa reference does not prove that the invention was known or used by others before Applicant's invention thereof.

Hence, Claims 1-12 and 26-27 are allowable over Yanagisawa, and Applicant respectfully urges the Examiner to pass all claims to issue.

#### **Patentability of new Claim 28**

New Claim 28 recites "the emitter ledge layer having an intrinsic region located beneath the emitter mesa and separated from the emitter mesa by an **etch stop layer**" (emphasis added). Applicant submits that at least this feature is not disclosed by the prior art cited by the Examiner. Support for the new Claim 28 can at least be found in the originally submitted Claims 1 and 6. Hence, Claim 28 is patentable and should be allowed by the Examiner.

#### **Patentability of new Claim 29**

New Claim 29 recites "wherein the emitter ledge layer is separated from the emitter mesa by an **etch stop layer**" (emphasis added). Applicant submits that at least this feature is not disclosed by the prior art cited by the Examiner. Support for the new Claim 29 can at least be found in the originally submitted Claims 26 and 6. Hence, Claim 29 is patentable and should be allowed by the Examiner.

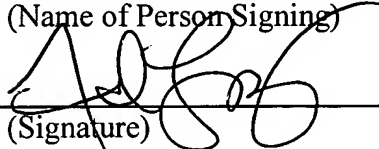
**Conclusion**

In view of the above, reconsideration and allowance of all the claims are respectfully solicited.

The Commissioner is authorized to charge any additional fees which may be required or credit overpayment to deposit account no. 12-0415. In particular, if this response is not timely filed, then the Commissioner is authorized to treat this response as including a petition to extend the time period pursuant to 37 CFR 1.136 (a) requesting an extension of time of the number of months necessary to make this response timely filed and the petition fee due in connection therewith may be charged to deposit account no. 12-0415.

I hereby certify that this correspondence is being deposited with the United States Post Office with sufficient postage as first class mail in an envelope addressed to Mail Stop AF  
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Alexandria, VA 22313-1450 on

November 8, 2006  
(Date of Deposit)

Trisha Lozano  
(Name of Person Signing)  
  
(Signature)

November 8, 2006  
(Date)

Respectfully submitted,



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Encls:  
Declaration under 37 C.F.R. §1.131;  
RCE transmittal form;  
Petition for extension of time;  
Checks in the amount of \$790 and \$330;  
Postcard.